

S/089/60/009/006/001/011
B102/B212

Spectra of fission neutrons...

of the fragments. Here are the values obtained: $n_f(0^\circ):n_f(45^\circ):n_f(90^\circ)$
 $= (1.31 \pm 0.07):(1.22 \pm 0.06):1.00$. The neutron distribution showed a considerable anisotropy: $b_{14} = N(0^\circ)/N(90^\circ) = 3.23 \pm 0.12$. The following value has been obtained after subtracting the neutrons evaporated before a fission $b_{14} = 4.03 \pm 0.23$; this value agrees within the limits of error with that obtained for thermal neutrons ($b_t = 4.35 \pm 0.19$). In order to describe these experimental results theoretically, calculations have been done and various assumptions have been made regarding the neutron spectra in the coordinate system of the fragments. However, no variant was able to yield satisfactory results that agreed with all three spectra which have been examined. The authors thank P. V. Toropov, Yu. Ya. Glazunov, A. N. Maslov, N. I. Nemudrov, V. A. Parshina, V. S. Khorkhordin, V. A. Komarova, M. P. Novikova, G. A. Peretokina, and L. A. Chernova for assistance. There are 6 figures, 1 table, and 14 references: 6 Soviet-bloc and 8 non-Soviet-bloc. The three references to English-language publications read as follows: Ref. 7: W. Stein. Phys. Rev. 108, 94 (1957); Ref. 10: S. Whetstone. Phys. Rev., 114, 581 (1959); Ref. 12: J. Terrell,

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Spectra of fission neutrons...

Phys.Rev., 113, 527 (1959).

SUBMITTED: February 29, 1960

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Legend to Fig. 2: 1) U^{235} layer;
2) deuteron beam; 3) target;
4) collimators.

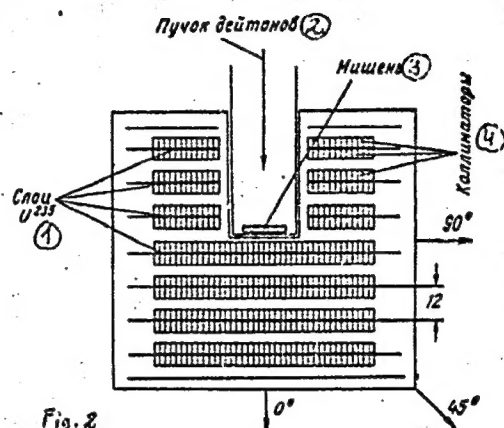


Fig. 2

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24.6500,24.6510

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AUTHORS: Kazarinova, M. I., Zamyatnin, Yu. S., Gorbachev, V. M.

TITLE: 2.5 and 14.6 mev Neutron Cross Sections of Th²³⁰,
Pu²⁴⁰, Pu²⁴¹, and Am²⁴¹ Fission. Letter to the Editor

PERIODICAL: Atomnaya energiya, 1960, Vol 8, Nr 2, pp 139-141 (USSR)

ABSTRACT: Following recent fission cross-section measurements by fast neutrons, various researchers tried to establish an empirical relation between the relative fission probability $f = \frac{\sigma_f}{\sigma_c}$ and parameter $\frac{Z^2}{A}$. Nevertheless, the functional relation between f and the mass number A (for a fixed atomic number Z) was investigated in some detail only for the case of uranium, and the relation between f and Z was not clear at all, except that f rises quite rapidly with increasing Z . To study closer this latter problem and to get a more precise $f(A)$ relationship, the authors exposed Th²³⁰, Pu²⁴⁰, Pu²⁴¹, and Am²⁴¹ to

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2.5 and 14.6 mev neutrons originating from deuterium and tritium targets bombarded by 150-200 kev deuterons. The registration of events took place by means of a fission chamber with electron collection. Isotope content of Th and Am was determined mass-spectrometrically, and that of Pu^{239} in a layer of Pu^{240} by "weighing" it in the flux of thermal neutrons. The content of Am^{241} formed in a Pu^{241} layer resulting from its β disintegration was determined from the known accumulation time. The amount of Th^{230} , Pu^{240} ,

Am^{241} isotopes in layers under investigation was determined by counting α -particles emitted by those isotopes. The Pu^{240} content in the layer was also determined from the number of spontaneous fissions, and the amount of Pu^{241} by counting α -particles from Am^{241} . The Pu^{241} layer was also "weighed" in the thermal neutron flux, taking $1,025 \pm 10$ barn for the

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value of the Pu^{241} thermal neutron fission cross section. For Pu^{240} and Pu^{241} various methods used agreed within experimental errors. Table 1 contains the results obtained together with the half-lives used by the authors during calculations.

Table 1. The characteristics of layers of isotopes studied.

Isotope	Effective weight, μg	Half-life, years	Isotopic composition
Th^{230} Pu^{240}	(1870 \pm 40) (345 \pm 15)	$8 \cdot 10^4$ [2] $0,6 \cdot 10^3$ [4]; $T_{1/2, \text{eff}} = 1,2 \cdot 10^4$ [2]	(35 \pm 1)% Th^{230} ; (65 \pm 1)% Th^{232} 15% Pu^{240} ; 85% Pu^{241}
Pu^{241} Am^{241}	(50,6 \pm 1,6) (89 \pm 2)	13,2 [3] 458 \pm 0,5 [3]	12% Am^{241} ; 88% Pu^{241} 100% Am^{241}

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The 14.6 mev neutron cross section was determined by absolute methods. Neutron flux was obtained counting α -particles from T(d, n)He^4 reaction, while the background of scattered neutrons was determined performing measurements at different places between the chamber and the sources. The 2.5 mev measurements could not be made completely exact, because of the small counting rate. Relative measurements utilized twin fission chambers which contained at the same time a material of known fission cross section for neutrons of given energy. Cross section of Th^{230} was taken relative to that of Th^{232} , and those of Pu^{240} , Pu^{241} , and Am^{241} relative to the U^{238} fission cross section. For control purposes Am^{241} was compared to U^{235} . The 2.5 mev cross sections were also compared to those at 14.6 mev by utilizing the relative fission cross sections of materials used in the neutron beam monitors:

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0.13 and 0.34 barn for Th^{235} and 0.58 and 1.1 barn
 for U^{238} detectors at the respective energies of 2.5
 and 14.6 mev. Cross section values are from papers
 of Hughes and Schwartz (see reference at end of
 Abstract). All 2.5 mev values agreed on the limit of
 errors, and results are given in Table 2.

Table 2. 2.5 and 14.6 mev neutron induced fission cross sec-
 tions σ_f of isotopes, barn.

Isotopes	2.5 mev		14.6 mev		** $\sigma_{\text{f}}/\text{b}$
	Data from present experiments	Data by other authors	Data from present experiments	Data by other authors	
Th^{230}	0.41 ± 0.08	--	0.72 ± 0.15	--	0.90
Pu^{240}	1.8 ± 0.3	1.5 ± 0.15 [A]	2.4 ± 0.3	$2.6 \pm 0.2^*$ [A]	2.55
Pu^{241}	1.2 ± 0.2	--	2.05 ± 0.1	--	2.15
Am^{241}	1.95 ± 0.2	1.35 [1]	2.95 ± 0.15	2.35 ± 0.15 [B]	2.85

Card 5/11 * Fission cross section due to neutrons at 14 mev energy.
 ** Fission cross sections on the second plateau, computed using Eq. (1).

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In Table 2, Reference [A] is: V. G. Nesterov, G. N. Smirenkin, Zh. eksperim. i teor. fiz., 35, 522 (1958); and Reference [B] is: A. N. Protopopov, Yu. A. Selitskiy, Atomnaya energiya, 6, Nr 1, 67 (1959). The authors paid special attention to possible mistakes in the case of Am^{241} , where the results disagreed with results of other authors, but they did not find any appreciable error. Evaluation of Results. The 2.5 mev neutron results verify the decrease of the fission cross section and the ratio f with the increase of A (for fixed Z). The explanation of this is connected to the decrease of neutron binding energy, and to the related rise in neutron evaporation probability. From this standpoint the practically negligible influence of pairing of the fissionable isotopes on $f(A)$ seems slightly strange, since it affects the binding energy E_B . The authors found also that f is not a single-valued function of Z^2/A since, as seen on Fig. A, each element has a particular f -curve.

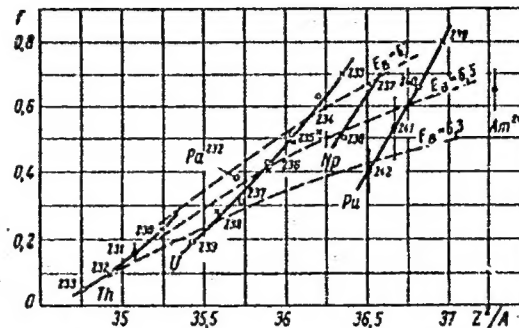
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Fig. "A". Relative probability of nuclear fission f versus the parameter Z^2/A . o, neutron-induced fission; x, photofission (points o and x taken from: Yu. S. Zamyatnin, The Physics of Nuclear Fission, Supplement Nr 1 to the periodical Atomnaya energiya; M. Atomizdat, 1957, p 27, corrected by taking into account newly published fission cross-section data); \cdot are data from the present investigation. Dashed line shows approximate $f(Z^2/A)$ relationships for various values of the binding energy.



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Trying to fit all the curves together using Z^n/A , at $n \neq 2$, dependence, it became clear to the authors that fitting curves of different groups of elements would require different exponents of n . To fit Th, Pa, and U, n should be 1.7; to fit U, Np, and Pu, n should be 1.2; to fit Am^{242} with the Pu curve, $n = 0.8$. The authors note that the weaker dependence of f from Z is apparently connected to the fact that, in addition to the Z^2/A parameter, f is determined also by the probability of neutron evaporation, which again depends on the binding energy of neutrons. If one takes into account that for a given Z^2/A and the same pairing, an increase in Z is connected to a decrease of binding energy (see Table 3) and, consequently, with an increase of evaporation probability, it becomes understandable why one observes reduced relative fission probability of isotopes of elements with larger Z .

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Table 3. Neutron binding energy in nuclei versus
 Z for fixed Z^2/A , in mev.

Z^2/A							
35,25		35,5		36,2		36,5	
---	---	Th^{228}	7,0	---	---	U^{232}	7,1
Th^{230}	6,7	Pa^{233}	6,6	U^{234}	6,7	Np^{237}	6,7
Pa^{235}	6,3	---	---	Np^{239}	6,3	Pu^{242}	6,2
---	---	U^{238}	6,0	---	---	---	---
U^{240}	5,8	---	---	---	---	---	---

It follows that by observing nuclei which have equal values of E_B one can exclude the effect of neutron evaporation and obtain an $f(Z^2/A)$ depending on the fission process only (see Fig. A). The 14.6 mev

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fission cross sections may be compared to the expected
 fission cross-section values on the second plateau
 using

$$\sigma_f = \sigma_{f_0} \left[1 + \frac{(1 - f_0) f_{-1}}{f_0} \right]. \quad (1)$$

Computed values σ_f are tabulated in Table 2. Allowing
 during such a comparison the possibility of occurrence
 of a new channel leading to fission of the nucleus
 reaction $(n, 2nf)$ whose energy threshold lies slightly
 below 14 mev, and allowing the possibility of a slant
 of the plateau due to a difference in the fission Γ_f
 and neutron Γ_n width increase with energy, the agree-
 ment may be considered as good. A larger discrepancy
 in case of Th^{230} can be explained by lower accuracy
 of its fission cross-section determination. B. V.
 Kurchatov, M. I. Pevzner, G. N. Yakovlev, E. P. Dergunov,

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and S. K. Sokolova supplied the isotopes and prepared the layers; I. A. Tishchenko and G. M. Kukavadze performed the mass-spectrometric analysis; Yu. A. Vasil'yev and E. I. Sirotin performed measurements on the accelerating tube; and M. S. Shvetsov, Yu. A. Barashkov, and E. D. Beregovenko helped take measurements. There is 1 figure; 3 tables, and 8 references, 3 Soviet, 1 U.K., 4 U.S. The U.K. and U.S. references are: J. Huizenga, Phys. Rev., 109, 484 (1958); D. Hughes, R. Schwartz, Neutron Cross Sections, New York, BNL (1958); D. Hall, T. Markin, J. Inorg. and Nucl. Chem., 4, 137 (1957); R. Leachman, Report Nr 2467 presented by U.S.A. at the Second United Nations International Conference for the Peaceful Uses of Atomic Energy (Geneva 1958); M. Studier, J. Huizenega, Phys. Rev., 96, 545 (1954).

SUBMITTED:
 Card 11/11

August 8, 1959

S/089/61/010/001/002/020
B006/B063

AUTHORS: Bonyushkin, Ye. K., Zamyatmin, Yu. S., Spektor, V. V.,
Rachev, V. V., Negin, V. R., Zamyatnina, V. N.

TITLE: Fragment Yields From U^{233} and Pu^{239} Fissions Induced by
Fast Neutrons

PERIODICAL: Atomnaya energiya, 1960, Vol. 10, No. 1, pp. 13 - 18 ✓

TEXT: The authors applied radiochemical methods to determine the absolute fragment yields of U^{233} and Pu^{239} fissions induced by 14.5-Mev neutrons and neutrons of the fission spectrum. A report of the results is made here. Specimens of $U_3^{233}O_3$ and metallic Pu^{239} foils (120 - 150 mg) were irradiated in hermetically sealed brass cells - both with 14.5 Mev neutrons (from the target of an accelerator, by means of a t,d-reaction) and neutrons of the fission spectrum (from a non-moderated U^{235} arrangement). The total flux hitting the specimens was $\sim 5 \cdot 10^{14}$ neutrons. Thereupon, the fragments were

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separated chemically, and their beta activity was measured. The mass distributions of fragments were determined for the irradiated specimens. The curves are basically symmetric, i. e., the minimum between $A = 110 - 120$ is flanked by two maxima at $A = 90 - 100$ and $A = 135 - 145$. The simple linear correlation between the difference Δm of the average masses of the heaviest and the lightest fragment and the atomic weight of the nucleus undergoing fission was independent of the neutron energy but dependent on whether A was even or odd:

$$\Delta m = 288 - 1.04 A + \delta, \quad \delta = \begin{cases} 0 & (\text{even } A) \\ \sim 2 & (\text{odd } A) \end{cases}. \quad \text{A. A. Malinkin, Yu. A. Vasil'yev,}$$

and V. I. Shamarukhin are thanked for neutron irradiation of the specimens; P. N. Moskalev, N. V. Shuvanova, A. A. Yegorova, and K. N. Borozdina for chemical operations; and V. V. Zakatillov and L. N. Sorokina for assistance in physical measurements. Numerical results are tabulated. There are 5 figures, 1 table, and 12 references: 5 Soviet and 7 US. ✓

SUBMITTED: April 16, 1960

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BC06/B063

Выходы осколков деления U^{235} и Pu^{239}

Осколки 1	U^{235}		Pu^{239}	
	нейтроны спектра деления 2	нейтроны с энергией 14,5 Мэв 3	нейтроны спектра деления 2	нейтроны с энергией 14,5 Мэв 3
Sr^{90}	$6,30 \pm 0,60$	—	—	$4,16 \pm 0,40$
Mo^{99}	$4,75 \pm 0,35$	$3,5 \pm 0,3$	$5,9 \pm 0,6$	$6,25 \pm 0,80$
Ru^{102}	$0,413 \pm 0,045$	$2,31 \pm 0,30$	$6,0 \pm 0,7$	$4,16 \pm 0,5$
Ru^{104}	$0,16 \pm 0,02$	$1,52 \pm 0,20$	$4,8 \pm 0,8$	$1,46 \pm 0,14$
Ag^{111}	$0,0837 \pm 0,003$	$1,22 \pm 0,12$	$0,55 \pm 0,06$	$1,23 \pm 0,10$
Cd^{116}	$0,052 \pm 0,006$	$0,98 \pm 0,18$	$0,09 \pm 0,01$	$1,30 \pm 0,11$
Te^{128m}	$0,050 \pm 0,006$	$1,05 \pm 0,20$	$0,095 \pm 0,010$	—
Te^{129m}	$0,002 \pm 0,050$	—	$0,45 \pm 0,09$	—
Te^{132}	1,57	—	1,17	$4,58 \pm 0,50$
Cs^{134}	$4,36 \pm 0,40$	$3,98 \pm 0,35$	$3,5 \pm 1,0$	—
Cs^{137}	0,11	0,5	—	$5,1 \pm 0,8$
Ba^{140}	$6,28 \pm 0,50$	$4,7 \pm 0,5$	—	$4,35 \pm 0,40$
Co^{111}	$6,31 \pm 0,50$	—	$5,4 \pm 0,5$	—
	$6,77 \pm 0,60$	$5,0 \pm 0,5$	—	—

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Legend to the Table: 1) Fragment, 2) the fission being induced by neutrons of the fission spectrum, 3) the fission being induced by 14.5-Mev neutrons.

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S2405

S/056/60/038/03/02/033
B006/B014

21.11.00
AUTHORS:

Vasil'yev, Yu. A., Zamyatnin, Yu. S., Il'in, Yu. I.,
Sirotnin, Ye. I., Teropov, P. V., Fomushkin, E. F.

TITLE:

Measurement of Spectra and the Average Neutron Number¹⁹ in the
Fission of U^{235} and U^{238} by 14.3-Mev Neutrons

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960,
Vol. 38, No. 3, pp. 671-684

TEXT: The present article deals in detail with the experimental investigations made in the energy range 0.4 - 5 Mev by means of the time-of-flight technique and a pulsed neutron source. The experimental arrangement is schematically shown in Fig. 1. The reaction $T(d,n)He^4$ served as primary neutron source in the target of an accelerator. The target was bombarded with 150-kev deuterons. The time-of-flight determination was carried out electronically by measuring the time integrals between the pulses in the detector. The deuteron impulses were obtained by modulation; i.e., by means of a sinusoidal

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electric field ($f = 2Mc/sec$); the pulses of the 14.3-Mev neutrons lasted 3 μsec and had a frequency of 4 Mc/sec. On the average, 4 neutrons were obtained per pulse. Two fission chambers were used (with U^{235} (90 per cent) and U^{238} (natural isotope composition)); the chambers were filled with a mixture of argon and CO_2 -gas (10 per cent) at 760 torr. A tolan crystal (diameter 80 mm, thickness 25 mm) with a photomultiplier of the type FEU-33 served as neutron detector. The efficiency of the detector was determined according to Hardy. Fig. 2 shows the efficiency as a function of the energy of three threshold energies: 0.2, 0.25, and 0.3 Mev. The electronic apparatus used to measure the pulse distribution in the detector with respect to time is described in detail. Fig. 3 illustrates a block scheme, Fig. 4 a recorded pulse versus time diagram. Fig. 5 shows the time distribution of the pulses recorded with the measurement of the neutron spectrum of the U^{238} fission. Besides neutrons and γ -rays of the fission the following were also recorded: 14-Mev primary neutrons, neutrons, and γ -quanta due to interaction between primary neutrons and parts of the apparatus, radiations of the activated

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substances, neutrons, and γ -quanta due to primary neutron scattering, and 2.5-Mev neutrons from the accelerator. Details and accuracy of the "separation" of the measured values from the background are discussed. The neutron spectra of U^{235} and U^{238} fission are shown in Figs. 7a and 7b. All curves show a similar course: a steep ascent, a peak, and an even descent. Figs. 8a and 8b show the diagrams made for the analysis of the spectra in the coordinates $\ln(F(E)/E)$ and E_p . The spectra may be satisfactorily represented by

$$F(E) = \alpha \frac{E}{T^2} \exp(-E/T) + (1 - \alpha) \frac{\exp(-w/T_f)}{\Gamma(wT_f)} \exp(-E/T_f) \operatorname{sh} \frac{2\sqrt{wE}}{T_f}.$$

The analytical results are listed in Table 1. The following parameter values are indicated: for U^{235} , $T_f = (1.06 \pm 0.03)$ Mev; $T = (0.37 \pm 0.04)$ Mev;

α (fraction of evaporated neutrons) = $(0.16 \pm 0.02)\%$; for U^{238} , $T_f = (1.16 \pm 0.03)$ Mev; $T = (0.40 \pm 0.04)$ Mev; $\alpha = (0.21 \pm 0.02)\%$. The average number of neutrons emitted in the fission $\bar{\nu}$: 4.17 ± 0.30 (U^{235}) and \times

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4.28 ± 0.30 (U^{238}), the ratio $\bar{\nu}(U^{238})/\bar{\nu}(U^{235}) = 1.03 \pm 0.03$. The following
data were obtained: U^{235} ; $d\bar{\nu}/dE_n = 0.112 \pm 0.011$ and U^{238} ; $d\bar{\nu}/dE_n =$
 $= 0.115 \pm 0.011$; (E_n - neutron energy). In conclusion, the authors thank

Yu. Ya. Glazunov, A. N. Maslov, N. I. Nemudrov, V. A. Parshina, A. I. Re-
shetov, V. S. Khorkhordin, and V. N. Shikin for having participated in the
measurements and for their assistance, V. A. Komarova for computer calcula-
tions. Mention is also made of the group of V. A. Ivanov, Yu. S. Zamyatin,
G. A. Bat', and L. P. Kudrin. There are 9 figures, 2 tables, and 21 ref-
erences, 12 of which are Soviet.

SUBMITTED: August 5, 1959

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S/641/61/000/000/014/033
B104/B102

24.6600
AUTHORS:

Bonyushkin, Ye. K., Zamyatin, Yu. S., Kirin, I. S.,
Martynov, N. P., Skvortsov, Ye. A., Ushatskiy, V. N.

TITLE:

Fragment yields of fast neutron fission of U^{235} and U^{238}

SOURCE:

Krupchitskiy, P. A., ed. Neytronnaya fizika; sbornik statey.
Moscow, 1961, 224-234

TEXT: Results of fragment yield measurements carried out in 1953-1955 are
dealt with. U^{235} and U^{238} were fissioned by 14.5-Mev neutrons and
fission neutrons. The relative fragment yield with respect to the Mo^{99}
yield and the absolute yield in Mo^{99} were determined. Pressed 10-50 g
 U_3O_8 tablets were put into a hermetically sealed container.

A U^{235} multiplication system without a moderator, and a converter which
transformed thermal neutrons into fission neutrons were used as fission
neutron sources. The specimen was bombarded by an integral neutron flux
of $2 \cdot 10^{13}$. A tritium-saturated zirconium target which was bombarded with

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150-kev protons served as 14.5-Mev neutron source. The integral neutron flux onto the specimen was $2 \cdot 10^{14}$. The irradiation time was 6 to 10 hrs. The fission fragments were separated from the irradiated samples by isotope dilution. The fragment yields were determined from their β -activity by end-window counters with a 15-20 μ thick mica window having a diameter of 20 mm. The results are summarized in Table 2. The relative probability of a symmetrical fission largely depends on the excitation energy of the compound. For U^{235} the ratio r between the fragment yield of a symmetrical fission and the maximum yield increases from 0.0016 in thermal-neutron fission to 0.0052 in fission induced by fission neutrons, and to 0.2 in the fission with 14.5-Mev neutrons. An increase in excitation energy of the compound nucleus to 14.5 Mev increases the relative probability of a symmetrical fission by a factor of 125. The variation of r for U^{235} , U^{236} , U^{234} , and Pu^{239} is studied as a function of Z^2/A . The distribution of the fragment yields of these isotopes as a function of A of the fragments is asymmetric. The authors thank A. A. Malinkin, M. I. Pevzner, L. B. Poretskiy and Ye. I. Sirotinin for irradiating the uranium samples with neutrons, V. V. Spektor and L. S. Andreyeva for help in the measurements, V. N. Zamyatina, A. A. Pashchenko, Ye. P.

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Krasheninnikova, V. R. Negin, N. V. Shuvanova, S. Ye. Sanina and E. A. Kozyreva for the radiochemical separation. A. N. Protopopov (Atomnaya energiya, 5, vyp. 2, 1958) is mentioned. There are 6 figures, 2 tables, and 19 references: 5 Soviet and 14 non-Soviet. The four most recent references to English-language publications read as follows: Fong P., Phys. Rev., 102, 434 (1956); Katcoff S., Nucleonics, 16, 4 (1958); Bunney L. R., Scadden E. M., Abriam J., Ballou N. O., report no. 643, held at the Second International Conference on the Peaceful Uses of Atomic Energy, Geneva, 1958; Hemmendinger A., report no. 663, held at the Second International Conference on the Peaceful Uses of Atomic Energy, Geneva, 1958.

Table 2. Total fragment yield, %.

Legend: (1) isotope, (2) fission spectrum, (3) 14.5 Mev.

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BOBYUSHKIN, Ye.K.; ZAMYATNIN, Yu.S.; SPEKTOR, V.V.; RACHEV, V.V.; NEGINA, V.R.;
ZAMYATNINA, V.N.

Yields of fragments from the fission of U^{233} and Pu^{239} induced by
fast neutrons. Atoms. energ. 10 no.1:13-18 Ja '61. (MIRA 13:12)
(Uranium--Isotopes) (Plutonium) (Fission products)

S/824/62/000/000/003/004
B164/B102

AUTHOR:

Zamyatnin, Yu. S.

TITLE:

Fission prompt neutrons and γ -rays

SOURCE:

Fizika deleniya atomnykh yader. Ed. by N. A. Perfilov and
V. P. Eysmont. Moscow, Gosatomizdat, 1962, 98 - 120

TEXT: A review is given on the results obtained by experiments on prompt neutrons and γ -quanta emitted from excited fission fragments of heavy nuclei. The papers under reference cover the period of the last five years. The following matters are considered in detail: The dependence of number and spectrum of prompt neutrons, evaporated from the fragments, on Z and A of the initial nucleus and on the energy of the fission-inducing neutron; Angular and energy distributions, anisotropy effects. Fission γ -quantum yields and spectra as regards their dependence on fission parameters, e.g. on fragment mass ratio. Finally some open questions are discussed. It is urged that experiments on spectra and angular anisotropy in the c.m.s. and on spectra of neutrons emitted from fragments of different mass are very desirable. There are 14 figures and 3 tables.

Card 1/1

KORSHAK, V.V.; ZAMYATINA, V.A.; BEKASOVA, N.I.

Polycondensation of 1,2-diphenyldiborane with diamines. Izv.
AN SSSR. Ser.khim. no.9:1648-1651 S. '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.
(Diborane) (Amines)

KORSHAK, V.V.; BEKASOVA, N.I.; CHURSINA, L.M.; ZAMYATINA, V.A.

Reaction of 1,2-diphenyldiborane with amines and organoborodiamines.
Izv. AN SSSR. Ser.khim. no.9:1645-1648 S '63. (MIRA 16:9)

1. Institut elementoorganicheskikh soedineniy AN SSSR.
(Diborane) (Amines) (Boron organic compounds)

BONYUSEKIN, Ye.K.; ZAMYATIN, Yu.S.; SPECTOR, V.V.; RACHEV, V.V.; NEGINA, V.E.;
ZAMYATINA, V.N.

Yields of fragments from the fission of U^{233} and Pu^{239} induced by
fast neutrons. Atoms. energ. 10 no.1:13-18 Ja '61. (MIRA 13:12)
(Uranium---Isotopes) (Plutonium) (Fission products)

NEGINA, V.R.; ZAMYATNINA, V.N.; YEGOROVA, A.A.; Prīnimali uchastiye:
PRESNYAKOVA, M.A.; CHIKISHEVA, L.S.; SHEVCHENKO, P.P.; TRUBIN, I.A.;
MAL'KOV, V.I.

Determination of chlorine, arsenic, and phosphorus impurities in
some organic materials by the activation method. Radiokhimiia 5
no.2:270-272 '63.
(MIRA 16:10)

NEGINA, V.R.; ZAMYATNINA, V.N.

Quantitative determination of traces of barium, nickel, copper,
antimony, molybdenum, manganese, cadmium, tin, gold, arsenic
in metallic beryllium by the radioactivation method. Zhur.anal.
khim. 16 no.2:209-212 Mr-Apr '61. (MIRA 14:5)
(Metals--Analysis)
(Activation analysis)

ZAMYATNINA, V.N.; CHIKISHEVA, L.A.

Quantitative determination of the sum of rare-earth elements,
ruthenium, palladium, and platinum in metallic beryllium using
the activation method. Radiokhimiia 5 no.3:294-298 '63.
(Radioactivation analysis) (Radioisotopes--Analysis) (MIRA 16:10)
(Beryllium--Analysis)

ZAM YATVINA, V. M.

5/09/63/010/001/002/003
R006/R065

AUTHORS: Bonyushin, Ye. K., Zayatsina, Yu. S., Spector, V. T.,
Kashov, V. T., Megira, V. R., Zayatsina, V. M.

TITLE: Fragment Yields From ^{235}Pu and ^{239}Pu Fission Induced by
Fast Neutrons

PERIODICAL: Atomnaya energiya, 1963, Vol. 10, No. 1, pp. 13 - 18
NOTE: The authors applied radiochemical methods to determine the absolute
fragment yields of ^{235}Pu and ^{239}Pu fission induced by 14.5-MeV neutrons
and neutrons of the fission spectrum. A report of the results is made here
Specimens of ^{235}Pu and metallic ^{239}Pu foils ($120 \times 150 \text{ mg}$) were irradiated
in hermetically sealed brass cells - both with 14.5 MeV neutrons (from the
target of an accelerator, by means of a fission reaction) and neutrons of the
fission spectrum (from a non-moderated ^{235}Pu arrangement). The total flux
hitting the specimens was $\sim 10^{14}$ neutrons. Thereupon, the fragments were
Chemical

Fragment Yields From ^{235}Pu and ^{239}Pu Fission
Induced by Fast Neutrons

separated chemically, and their beta activity was measured. The mass
distributions of fragments were determined for the irradiated specimens.
The curves are basically symmetric, i. e., the minimum between
 $A = 110 - 120$ is flanked by maxima at $A = 92 - 103$ and $A = 135 - 145$.
The simple linear correlation between the difference ΔA of the average
masses of the heaviest and the lightest fragment and the atomic weight
of the nucleus undergoing fission was independent of the neutron energy
but dependent on whether A was even or odd:
 $\Delta A = 208 - 1.04 A + \begin{cases} 8 & \text{for even } A \\ -2 & \text{for odd } A \end{cases}$
and V. I. Zhuravskiy are thanked for neutron irradiation of the specimens.
P. M. Kostaler, S. T. Shurayeva, A. A. Yeforova, and K. T. Borovikova for
chemical operations; and V. Y. Zakharov and L. M. Sorokina for assistance
in physical measurements. Numerical results are tabulated. There are
5 figures, 1 table, and 12 references: 5 Soviet and 7 US.

SUBMITTED: April 16, 1963

Revised

6905/5008
020/200/100/010/79/660/5

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5906/5208
030/200/100/010/09/620/8

Lead to the Table 1) Present, 2) the character of the spectrum of the ionosphere.

NEGINA, V.R.; ZARYATHINA, V.H.; PRETYAKOV, M.A.; CHIKISHEVA, L.A.

Radioactivation method for determining the total of rare earth elements, manganese, nickel, copper, antimony, arsenic, molybdenum, cadmium, and gold in lithium compounds. Radiokhimiya 3 no.4:473-477 '61. (MIRA 14:7)

(Radioisotopes--Analysis)

KARATAYEV, N.K., prof.; POLYANSKIY, F.Ya., prof.; REUEL', A.L., prof.;
AFANAS'YEV, V.S., dotsent; BORKOVA, K.I., dotsent; ZAMYATNINA,
V.N., dotsent; RYNDINA, M.N., dotsent; BAKOVETSKIY, O., red.;
CHEPYLEVA, O., tekhn.red.

[Curriculum for the course "History of economic theory"; for
economic institutions of higher learning and faculties]
Programma kursa "Istoriia ekonomicheskikh uchenii" dlia ekono-
micheskikh vysshikh uchebnykh zavedenii i fskul'tetov. Moskva,
Izd-vo sotsial'no-ekon.lit-ry, 1960. 48 p.

(MIRA 14:1)

1. Russia (1923- U.S.S.R.) Upravleniye prepodavaniya
obshchestvennykh nauk. 2. Komissiya Upravleniya prepodavaniya
obshchestvennykh nauk Ministerstva vysshego i srednego spetsial'nogo
obrazovaniya SSSR (for all, except Bakovetskiy, Chigina).
(Economics--Study and teaching)

~~ZAMYCHKIN, K.S.,~~ GRODZENSKIY, D.E.

Turnover of organic phosphorus compounds in animal bile
[with summary in English]. Vop.med.khim. 4 no.3:175-181 My-Je '58
(MIRA 11:6)

1. Laboratoriya fiziologii i patologii pishchevareniya Instituta
normal'noy i patologicheskoy fiziologii AMN SSSR i Tsentral'nyy
institut usovershenstvovaniya vrachey.

(PHOSPHORUS, metabolism

turnover of organic phosphorus cpds. in bile of
dogs (Rus))

(BILE,

organic phosphorus cpds, in bile of dogs after oral
admin. of radiophosphorus (Rus))

ZAMYCHKIN, S.

AID P - 383

Subject : USSR/Aeronautics

Card 1/4 Pub. 58 - 1/4

Periodical : Kryl. rod., 8, 1-24, Ag 1954

Abstract : Three articles from this issue have been processed on separate cards (indicated below). The remainder are not considered of any special value and are listed only on the following Table of Contents:

	PAGES
1. For New Aviation Records, (Written on the occasion of the distribution of rewards, a complaint about the inactivity of one center)	1
2. Sazonov, I., Aviator Participants in All-Union Agricultural Exhibition (Names of two prominent aviators are mentioned). Photos	2
3. Smirnov, Ye., Alertness -- Our Weapon (A call for alertness in view of the possible imperialistic aggression. Several names cited as examples of outstanding alertness)	3-4

AID P - 383

Kryl. rod., 8, 1-24, Ag 1954

Card 2/4 Pub. 58 - 1/4

PAGES

4. Zamyckin, S., The Struggle for Altitude
(A pilot's account of how he broke an altitude record on a slightly modified standard YaK-18 aircraft), Photo 5
5. Petryanov, L., International Glider Competition (Processed on separate card). Photos 6-7
6. Makarov, V., Some Problems of the Theory of Glider Take-Off by Means of a Mechanical Hoist (Processed on separate card). Photos, diagrams, etc. 8-10
7. A Sportsman of Merit (Recent achievements of Yefimenko, V. I., glider pilot). Photo 10
8. How to Judge the Exercise: "Flight on Glider to a Designated Point and Return to the Take Off Place" 11
9. Malayev, V., Competition of Glider Pilots from 2 Districts. Photo 11
10. Tsuker, Yu., Engineer, Parachute Trainer (Processed on separate card). Diagrams 12

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Kryl. rod., 8, 1-24, Ag 1954

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PAGES

11. Ivannikov, D., Community Instructor (Example of good instruction work in USSR schools). Photo 13
12. Tatsiturnov, V., Needle-less Carburetor (Description and technical data). Photo, diagrams 14
13. Martynov, B., Engineer, High Velocity Free Flying Models (Elements of construction, automatic control, conditions of flight). Diagrams 15-18
14. Bazhin, N., Aeroclub Helps Primary Organizations (Examples of the assistance given by a local aeroclub) 18
15. Akhmedov, S., Lessons for DOSAAF members 18
16. Aviation Sport in the People's Democracies. Glider and Modeler Records (Some recent achievements in Czechoslovakia, Roumania and Hungary) 19
17. Amatuni, P., 4,000,000 km. (Bibliographical notes on Shashin, I. T., Pilot First Class) Photo 20-22

Kryl. rod., 8, 1-24, Ag 1954

AID P - 383

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	PAGES
18. Sports Chronicle (List of rewards)	
19. In the Aviation Sport Commission (Confirmation of recently established sport aviation records)	22
20. Aviation Calendar (Description of past events)	23
21. Insert. (Construction plans of an aircraft model)	23

Institution : None

Submitted : No date

ZAMYCHKIN, S.

SMIRNOV, B., geroy Sovetskogo Soyuz; PROTCHEV, V., geroy Sovetskogo Soyuz; ZAMYCHKIN, S., geroy Sovetskogo Soyuz, sportsmen 1-go razriada; SEMEL'NIKOVA, A., geroy Sovetskogo Soyuz, sportsmen 1-go razriada; KOMAROV, A., geroy Sovetskogo Soyuz, sportsmen 1-go razriada; PONOMARENKO, Ya., geroy Sovetskogo Soyuz, sportsmen 2-go razriada; KHLOPSEV, I., geroy Sovetskogo Soyuz, sportsmen 2-go razriada; SOKOLOVSKIY, A., geroy Sovetskogo Soyuz, sportsmen 2-go razriada; POSTNIKOVA, Z., geroy Sovetskogo Soyuz, sportsmen 1-go razriada.

Make a sport model jet airplane; letter to the editor. Kryl.red.
6 no.1:8 Ja '55. (MLRA 8:3)
(Jet planes)

ZAMYCHKIN, S.

In intracub competitions. Kryl.rod. 6 no.9:11 S'55. (MIRA 8:11)

1. Predsedatel' parashyutnoy seksii 1-go Moskovskogo gorodskogo
aerokluba

(Parachutists)

ZANYCHKIN, S., rekordsmen SSSR po samoletnomu sportu; MEYLAKHS, M., rekordsmen SSSR po samoletnomu sportu.

Record flight on the An-2 airplane. Kryl. rod. 8 no.12:10 D '57.
(Aeronautics---Flights) (MIRA 10:12)

85-57-12-11/29

AUTHORS: Zavrychkin, S. and Meylakhs, M., USSR Record Holders in
Airplane Sports

TITLE: Record Flight in an An-2 Plane (Rekordnyy polet na samolete
An-2)

PERIODICAL: Kryn'ya rodiny, 1957, Nr 12, p 10 (USSR)

ABSTRACT: The authors describe their flight in an An-2 plane, designed by O.K. Antonov, by which they established 4 USSR records on a triangular route Tushino - Tikhonova Pustynya - Vyaz'ma. The flying time was 8 hours 27 minutes; the distance covered on a closed route was 2,013.192 km., which established the first record; the speed of 238.244 km./hr. on a 2,000-km. closed route established the second record; the speed of 264.891 km./hr. on a 500-km. closed route, the third record, and the speed of 252.716 km./hr. on a closed 1,000-km. route the fourth record. Personalities mentioned include: engineers N. Alimov and A. Myachkov; technicians V. Novikov and A. Yavizyev; L.Ya. Oshurkov, deputy chairman of the DOSAAF Moscow Committee; sports commissars N. Kol'tsov and N. Babayev; N. Loginov, honorary Master of Sports, of the TsAK SSSR imeni V.P. Chkalova

Card 1/2

Record Flight in an An-2 Plane

85-57-12-11/29

(Central Aeroclub of the USSR imeni V.P. Chkalov); and R. Volkov, sportsman 1st rank. There is one photograph showing N. Kol'tsov, chief of the precision instruments laboratory at the Central Aeroclub of the USSR imeni V.P. Chkalov, and the two authors, S. Zamyahkin and M. Meylakh.

AVAILABLE: Library of Congress

Card 2/2 1. Aviation-USSR

ZAMYCHKIN, S., sud'ya respublikanskoy kategorii.

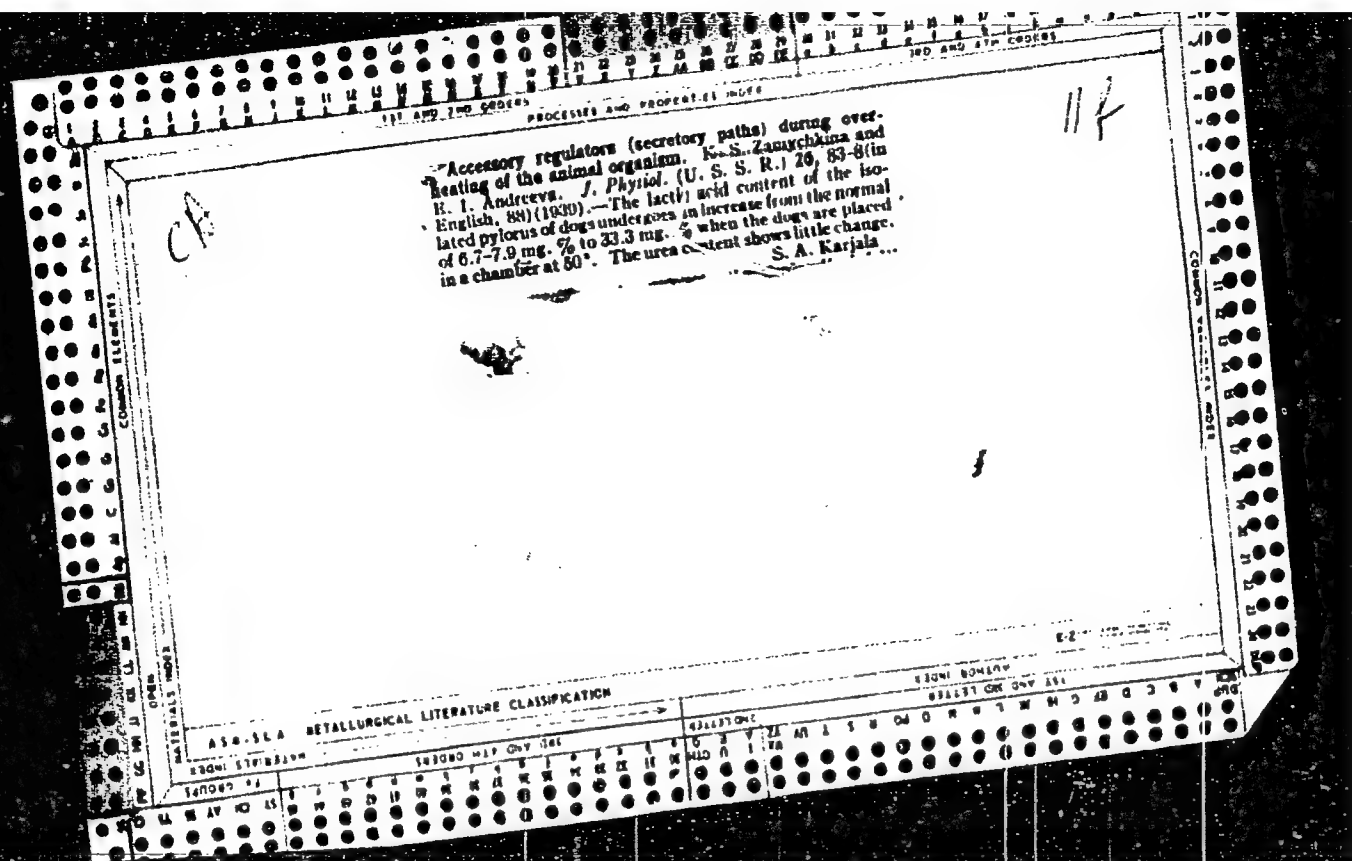
For the Kryl'ia Rodiny* Cup. Kryl. rod. 8 no.7:26 J1 '57.

(Moscow--Parachutists)

(MLRA 10:9)

PROCESSING AND PROPERTIES INDEX																									
1ST AND 2ND COLUMNS													3RD AND 4TH COLUMNS												
ZAMYCHKIN, K.S.																									
<p>The role of gastric locus in gastric secretion. K. S. Zamyckin. <i>Bull. Acad. med. sci. U. R. S. S.</i> 1, 317-8 (1961); <i>Physiol Abstracts</i> 23, 798; cf. <i>C. A.</i> 50, 7171. Aq. or HCl cats. of gastric mucus, when injected intravenously, cause secretion of gastric juice if the reaction of the stomach is neutral or acid or has been alk. for 15-30 sec., but not after prolonged alk. M. W. B.</p>																									
<p>ASB:ALA METALLURGICAL LITERATURE CLASSIFICATION</p>																									

Action of gastric mucus on the secretory function of the pancreas. K. S. Zamyshkina. *Bull. biol. med. appl.* U. R. S. S. R. 300(1955); *Physiol. Abstracts* 22, 1913. Aq. or HCl extn. of gastric mucus stimulate the activity of the pancreas only when its reactivity is increased by chloral hydrate. After several injections of the ext. there is a prolonged inhibition of secretion. M. W. H.



CA

11F

Glucolytic capacity of digestive juices. I. Glucolytic capacity of gastric juice. K. S. Zamyckina. *Arch. sci. biol.* (U. S. S. R.) 58, No. 4, 70-8 (in English, 77) (1940).—In dogs the juice of the pyloric glands has a higher glucolytic effect during the active phase of digestion. The juice of fundal glands seems to be nonglucolytic. The formation of lactic acid in the gastric juice is linked with the excretory and glucolytic activity of the mucosa. II. Glucolytic capacity of intestinal juices. *Ibid.* 78-80 (in English, 81).—The presence of lactic acid in intestinal juice is due to the excretory and glucolytic activity of the intestinal mucosa. The glucolytic capacity depends on the phase of digestion. T. Laanes

ASB-55A METALLURGICAL LITERATURE CLASSIFICATION

Elimination of phosphorus 32 via the intestinal juices II.
D. B. Gidzenko, K. G. Zamyatkina, and R. I. Kozlov. (MD)
Trudy Frunzensk. Radiats. 12:45p. & Med. (Moscow Med-
ical) 1953, 233-3; Referat. Zhur. Khim. Biol. Khim. 1955,
No. 7552.—Dogs with fistulas to the small intestine were
used and the juice was obtained following mechanical stimu-
lation. A neutral isotonic NaH_2PO_4 soln. was injected in-
travenously. ^{32}P compounds were found circulating in the
blood 20 days after the intravenous injection. In 15 days
13.65% of the ^{32}P had been eliminated via the kidneys, and
3.75% via the intestine. At the end of the first hr. 0.75%
of it had been eliminated via the intestinal juices. More
than 50% of the total P in the intestinal juice is in the form
of inorganic P. It is believed that P entering the intestine
with the bile is largely reabsorbed into the blood.

B. S. Levine

(2)

ZAMYCHKINA, K. S. and GRODSENSKIY, D. Ye.

"The Role of Radioactive Isotopes in Investigating the Physiology and Biochemistry of Digestion," a paper presented at the Atoms for Peace Conference, Geneva, Switzerland, 1955

The rate of per os administered phosphorus compounds of bile. K. S. Lamyckina and B. S. Levine. *Pharmacol. Med.* 24: 1-10 (1955). (Moscow). *Biokhimiya* 20: 353-0 (1955).—Radioactive dog bile was administered per os to other dogs. Shortly thereafter radioactive P was demonstrated in the blood serum; 57-60% of such P was extractable with an alcohol-ether mixt. The magnitude of specific activity of the fraction of inorg. P following the administration of radioactive bile was considerably lower than in the case of administration of radioactive Na phosphate. The specific activity of the serum was of a higher magnitude and the appearance of the specific activity max. was considerably delayed. The appearance times of the max. specific activity of the inorg. serum P and of the total P were not coincidental. The specific activity curve of bile following per os administration of radioactive bile is identical with the one following the administration of radioactive Na_2HPO_4 , the max. of specific activity appearing in 24 hrs. in both instances. In the case of *in vitro* expts. the org. P compds. of bile are not hydrolyzed by the mixts. of duodenal digestive juices of the dog. The content of total and inorg. P and the concn. of bilirubin in the blood serum remain unchanged. The org. compds. of bile are absorbed by the intestines of the dog without the splitting of P into inorg. form.

B. S. Levine

①

ZAMYCHKINA, K.S.

Reflex influence from the digestive tract on its absorptive capacity under normal conditions and in pathology of the liver. Biul. eksp. biol. i med. 54 no.9:50-53 S '62.

(MIRA 17:9)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav.- prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir.- deystvitel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva. Predstavlen deystvitel'nyy chlenom AMN SSSR V.V. Parinyam.

ZAMYCHKINA, K.S.

Effect of atropine on the rate of absorption from the gastrointestinal tract of inorganic phosphate ($\text{Na}_2\text{HP}^{32}\text{O}_4$) and the rate of its utilization from the blood under normal conditions and in liver pathology. Biul. eksp. biol. i med. 54 no.8:44-46 Ag '62.
(MIRA 17:11)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvetel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva.

GRODZENSKIY, D.E.; ZAMYCHKINA, K.S.

Use of the isotope method for the study of absorption from the
digestive tract. Med.rad. no.1:71-76'63. (MIRA 16:10)
(ALIMENTARY CANAL) (ABSORPTION (PHYSIOLOGY)
(TRACHRS (BIOLOGY))

ZAMYCHKINA, K.S.; KRYUKOVA, L.V.

Absorptive capacity of the digestive tract at different periods of time following the partial resection of the small intestine. Biul. eksp.biol.i med. 54 no.7:22-26 J1 '62. (MIRA 15:11)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I.Filipovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR prof. V.V.Parin) AMN SSSR, Moskva. Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Parinym.
(INTESTINES—SURGERY) (METHIONINE) (DIGESTIVE ORGANS)

FILIPPOVICH, S.I.; AMIROV, N.Sh.; VOLKOVA, T.V.; ~~ZAMYCHKINA, K.S.~~;
MALKIMAN, I.V.; MARTSEVICH, M.S.; NILOVA, N.A.; GOLUBEYKH,
L.I., red.; BUKOVSKAYA, N.A., tekhn. red.

[Compensatory processes in the digestive system following
resection of the stomach and the small intestine;
experimental studies] Kompensatornye protsessy v pishche-
varitel'noi sisteme posle rezektsii zheludka i tonkogo ki-
shechnika; eksperimental'nye issledovaniia. Moskva, Med-
giz, 1963. 290 p. (MIRA 17:3)

ZAMYCHKINA, K.S.; KRYUKOVA, L.V.

Absorption of casein— I^{13} and methionine— S^{35} from the digestive tract
at various times after the resection of two-thirds of the stomach.
Biol. eksp. biol. i med. 51 no.4:43-47 Ap '61. (MIRA 14:8)

1. Iz laboratorii fiziologii i patologii pishch vareniya (zav. -
prof. S.I.Filippovich) Instituta normal'noy i patologicheskoy
fiziologii (dir. - akademik V.N.Chernigovskiy) AMN SSSR, Moskva.
Predstavlena akademikom V.N.Chernigovskim.
(STOMACH—SURGERY) (CASEIN) (METHIONINE)

ZAMYCHKINA, K.S.

Effect of subtotal resection of the stomach on the absorption from the digestive tract of sodium phosphate P^{32} and its utilization in the organism. Biul. eksp. biol. i med. 51 no.5:48-52 My '61.

(MIRA 14:8)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. - prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - akademik V.N.Chernigovskiy) AMN SSSR, Moskva. Predstavlena akademikom V.N.Chernigovskim.

(STOMACH)

(PHOSPHORUS METABOLISM).

PARIN, V.V., red.; FILIPPOVICH, S.I., prof., red.; ZAMYCHKINA, K.S., red.;
MALKIMAN, I.V., red.; SOVETOV, A.N., red.; BEL'CHIKOVA, Yu.S.,
tekhn. red.

[Activity of the digestive system and its regulation under normal
and pathological conditions] Deiatel'nost' pishchevaritel'noi siste-
my i ee reguliatsiya v norme i patologii. Pod obshchei red. V.V.Pari-
na. Moskva, Medgiz, 1961. 259 p. (MIRA 14:11)

1. Akademiya meditsinskikh nauk SSSR, Moscow. Institut normal'noy i
patologicheskoy fiziologii. 2. Deystvitel'nyy chlen AMN SSSR (for
Parin). 3. Laboratoriya fiziologii i patologii pishchevareniya Insti-
tuta normal'noy i patologicheskoy fiziologii AMN SSSR, Moskva (for
Zamychkina).

(DIGESTION) (DIGESTIVE ORGANS---SURGERY) (STOMACH---ULCERS)

ZAMYCHKINA, K.S.

Effect of qualitatively different food loads on the synthesis of phosphorus compounds in the liver and on their secretion with the bile. Vop. med. khim. 6 no. 6:579-583 N-D '60. (MIRA 14:4)

1. Institute of Normal and Pathological Physiology Academy of Medical Sciences of the U.S.S.R., Moscow.

(BILE) (LIVER) (PHOSPHORUS METABOLISM)

ZAMYCHKINA, K.S.

Material on the absorptive capacity of the gall bladder [with summary in English]. Biul.eksp.biol. i med. 46 no.9:9-12 S'58 (MIRA 11:11)

1. Iz laboratorii fiziologii i patologii pishchevareniya (zav. prof. S.I. Filippovich) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR V.N. Chernigovskim.

(GALL BLADDER, metab.

phospholipid & sodium phosphate labeled with radiophosphorus absorp. (Rus))

(PHOSPHOLIPIDS, metab.

gallbladder, absorp. of radiophosphorus labeled prep. (Rus))

(PHOSPHATES, metab.

sodium phosphate labeled with radiophosphorus, absorp. by gallbladder (Rus))

ZAMYCHKINA, K.S.; RUDIK-GNUTOVA, Ye.A.; MARTSEVICH, M.S.

Effect of sodium salicylate on the digestive organs. Biul. eksp.
biol. i med. 42 no.11:19-23 N '56. (MIRA 10:1)

1. Iz instituta normal'noy i patologicheskoy fiziologii (dir. -
deystvitel'nyy chlen AMN SSSR prof. V.N.Chernigovskiy) AMN SSSR,
Moskva, Predstavleno deystvitel'nyy chlenom AMN SSSR V.N.Chernigovskim.
(GASTROINTESTINAL SYSTEM, eff. of drugs on,
sodium salicylate (Rus))
(SODIUM SALICYLATE, effs
on gastrointestinal system (Rus))

Zamyckina, K. S.

The use of labeled atoms in the study of the secretory
functions of digestive glands. I. O. E. Grodzinski,
K. S. Zamyckina, and E. I. Kotoleva. *Trudy Peim-nen*
Radionukleinykh i Med. (Moscow: Medgiz) 1955, 2:5 0.
Referat Zhur. Khim. Biol. Khim. 1955, No. 5349. - In the
bladder and liver bile of the dog P^{32} varies between 90 and
165 mg. g^{20} . Intravenously injected P^{32} appears in the bile
in 30 min. and reaches its max. on the following day. The
disproportionately low level of P^{32} in the feces indicates that
it is absorbed from the bile in the intestinal tract.

B. S. Levine

ZAMYCHINA, K.S.

1/ The elimination of phosphorus-32 via the bile obtained from a fistulated biliary duct in post-operative cholecystitis cases. III. D. E. Grodzinski, K. S. Zamyckina, E. I. Koroleva, and R. Ya. Paleva. *Trudy Trancekavkazsk. Med. Inst. v. Med. (Moscow: Medizg) 1953, 214-8; Referat. Zash. Khim., Biol. Khim., 1955, No. 7083.* - Each of two such fistulate patients received per os doses of Na₂HPO₄. At time intervals P³² was detd. in the whole blood, the plasma, the bile, the urine, and the feces. Specific activity was detd. from the ratios of P³²:P³¹. Max. activity appeared in a portion of the bile collected within the first hr. of its per os intake. A considerable part of the P³² was eliminated via the urine. B. S. Levine

PLZAK, M.; DOBRY, J.; ZAMYKAL, A.

The Jarosz method of tissue therapy in the treatment of depressive neurasthenic forms of cerebral arteriosclerosis.
Cesk. psychiat. 59 no.5:319-322 0'63.

1. Psychiatricka klinika fakulty vseobecneho lekarstvi KU,
Praha a Psychiatricka lecebna v Hornich Berkovicich.

CZECHOSLOVAKIA

PLZAK, M.; DOBRY, J.; ZANYSAL, A.; Psychiatric Clinic of the Faculty of General Medicine of the Charles University [Psychiatricka Klinika Fakulty Vseobecneho Lekarstvi KU], Prague; Psychiatric Hospital [Psychiatricka Lecebna], Horni Berkovice.

"Tissue Therapy According to Jarosz in the Treatment of the Depressive Neurasthenic Type of Arteriosclerosis of the Cerebral Arteries."

Prague, Ceskoslovenska Psychiatrie, Vol 59, No 5, 1963, pp 319-322

Abstract: Jarosz' modification of tissue therapy was tested in a group of 23 patients. All had confirmed symptoms of depressive neurasthenic arteriosclerosis of the cerebral arteries. The results were very encouraging. Treatment does not involve any complications and is very easily applied.
2 Tables, no references.

ZAMYKAL, Antonin

Analysis of gerontopsychiatric cases. Cesk. psychiat. 58 no.2:95-97
Ap '62.

1. Psychiatricka lecebna v Hornich Berkovicich.

(PSYCHOSES SENILE statist)
(PSYCHOSES INVOLUTIONAL statist)

ZAMYSHEVSKAYA, N.N.; YAROSHINSKAYA, N.P.

Methodology for a rapid determination of moisture and glycerin
in cellophane films. Khim. volok. no.6:67-68 '65.

(MIRA 18:12)

1. Barnaul'skiy filial Opytno-konstruktorskogo byuro avtomatiki.
Submitted April 13, 1965.

YAROSHINSKAYA, N.P.; ZAMYSHEVSKAYA, N.N.; ISAYEVA, D.D.

Paste for repairing rubberized apparatus. Khim. volok. no.6:69
'64. (MIRA 18:1)

1. Barnaul'skiy filial Opytno-konstrukterskogo byuro avtomatiki.

ZAMYSHEVSKAYA, N.N.; RYZHAKOVA, L.A.

Methods of rapid determination of the degree of polymerization
of alkali cellulose. Khim.volok no.4:69-71 '62. (MIRA 15:8)

1. Opytno-konstruktorskoye byuro avtomatiki, Barnaul'skiy filial.
(Cellulose) (Polymerization)

CA

22

Lubricating oil. M. R. Bauman and A. Zamyatlyeva.
Russ. Zh. Khim., Apr. 30, 1941. Acetylated castor oil is
mixed with a mineral oil.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

PRINCIPLES AND PROPERTIES																																																																																																							
<div style="display: flex; justify-content: space-between;"> CA 22 </div> <p>Lubricating oil. M. R. Bauman and A. Zamyatina. Russ. 50,847, Apr. 30, 1941. Castor oil is heated to 180- 200° under pressure with EtOH, in the presence of Al₂O₃ or Al(ON)-I, and the product is dissolved in mineral oil.</p>																																																																																																							
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12

The use of castor oil as a lubricant. M. R. Bauman and
 A. I. Zamyshlyeva. *Makholno Zhurnal* 14, No.
 5, 14 (1963). The difficulties involved in the use of castor
 oil for the lubrication of air-cooled aircraft engines are the
 decumpon. of ricinoleic acid at about 200° to $\text{Me}(\text{CH}_2)_7$
 $\text{CH}=\text{CHCH}_2\text{CH}(\text{CH}_2)_7\text{CO}_2\text{H}$. This compd. is easily
 polymerized, forming a hard film on the surface. C. B.

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

ZAMYSHKINA, K.S., DURINYAN, R.A.

Absorption and assimilation of radioactive iron by erythrocytes in anemia induced by partial denervation of the stomach [with summary in English]. Biul.eksp.biol. i med. 45 no.3:51-56
Mr'58 (MIRA 11:5)

1. Iz Instituta normal'noy i patologicheskoy fiziologii (dir.-deystvitel'nyy chlen AMN SSSR V.N. Chernigovskiy) AMN SSSR, Moskva. Predstavlena deystvitel'nyy chlenom AMN SSSR V.N. Chernigovskim.

(ANEMIA, experimental,

erythrocyte absorp. & assimilation of radioiron in anemia prod. by gastric denervation in dogs (Rus))

(IRON, radioactive,
same)

(STOMACH, physiology,

denervation causing exper. anemia, eff. on erythrocyte radioiron intake (Rus))

(ERYTHROCYTE, metabolism

radioiron, intake in exper. anemia prod. by gastric denervation (Rus))

TOMASHEVSKIY, L., gornyy inzh.; ZAMYSHLYAYEV, V.

Mining systems with flexible roofing. NTO 3 no.9:39-49 S '61.
(MIRA 14:8)

1. Predsedatel' soveta nauchno-tekhnicheskogo obshchestva
shakhty 3-3-bis kombinata "Kuzbassugol'" (for Tomashevskiy).
(Coal mines and mining)

GEL'PERIN, N.I.; FEBALK, V.L.; ROZOV, V.N.; ZAMYSHLYAYEV, V.G.; MILOVANOV,
I.B.

Extractive refining of a nickel electrolyte from iron and copper.
TSvet. met. 37 no.9:19-22 S '64. (MIRA 18:7)

GEL'PERIN, N.I.; PEBALK, V.L.; ROZOV, V.N.; ZAMYSHLYAYEV, V.G.; SOKOLOVA,
T.O.; MILOVANOV, I.B.; YEPISHEVA, M.S.

Fractional reextraction of metals from complex metal soaps.
TSvet.met. 38 no.10:41-49 0 '65.

(MIRA 18:12)

87
GEL'PERIN, N. I.; PERALK, V. L.; YURCHENKO, L. D.; ASHAB, M. G.; BARANOVA, Z. P.;
SHABKOVA, M. M.; CHICKERIN, T. G.; ZAMENIYATY, V. G.; GAZHONOV, Yu. K.;
KUZNETSOVA, M. I.

"Investigations in the field of the technique of liquid extraction."

Report submitted for 2nd All-Union Conf on Heat & Mass Transfer, Minsk, 4-12
May 1961.

Moscow Inst of Light Chemical Technology.

GEL'PERIN, N.I.; PEBALK, V.L.; ZAMYSHLYAYEV, V.G.; CHICHERINA, T.G.

Cylindrical mixer-sedimentation extractor. Zhur. VKHO 10
no.4:462-463 '65. (MIRA 18:11)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii imeni
M.V.Lomonosova.

TOMASHEVSKIY, I.P., gornyy inzhener; ZAMYSHLYAYEV, V.N.

Using the mining system with flexible metallic roofing in mining
out extra close contiguous thick seams. Ugol' 36 no.12:18.
20 D '61. (MIRA 14:12)

1. Shakhta No.3 - 3-bis kombinata Kuzbassugol'.
(Kuznetsk Basin--Coal mines and mining)

ZAMYSHLYAYEVA, A.M.

From the practice of communist labor brigades. Khim. volok.
no. 6:59-60 '60. (MIRA 13:12)

1. Krasnoyarskiy zavod.
(Krasnoyarsk Territory--Textile fibers, Synthetic)

08

Infrared absorption spectra of gossypol derivatives.
A. M. Zamiatyayeva and S. S. Krivich. *J. Gen. Chem.*
(U.S.S.R.) 31: 29 (in English 329) (1958); cf.
C. A. 31, 7430. A study was made of absorption
spectra of diaminogossypol, hexaacetylgossypol, hexa-
acetyldiaminogossypol and gossypol dioxime in the inter-
val 1.5 to 10 μ . When these spectra are compared with
that of gossypol it is found that the OH groups disappear
and the carbonyl groups are most likely changed in
acetylation. In the aniline derivs., the intensity of
the C-H bond is extremely weak. S. L. M.

ASW-55A DETAIL/FORMAL LITERATURE CLASSIFICATION

12

Ca

The structure of gonypol. A. M. Zaitseva and S. S. Kelych. J. Gen. Chem. (U. S. S. R.) 7, 1667 (1937); cf. C. A. 31, 7439. The infrared spectrum of gonypol from 1-10 μ confirms the presence in the mol. of a hydrocarbon side chain, CO and OH groups. There is some evidence for a double bond. H. M. Leicester

ASTM-11A METALLURGICAL LITERATURE CLASSIFICATION

SECTION	SUBSECTION	TOPIC	DATE	REMARKS
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26137

CHINA/Medicine - Typhus (Contd) Sep 1947
Leukocytes are not necessarily present in cases of exanthematous typhus and many cases had normal count. In some cases the count was even subnormal, but it never went above 12,000 - 13,000. Cases must be isolated immediately upon detection of this disease.

Exanthematous typhus found on the Kwantung peninsula is either of the light or medium variety and is transmitted very easily. Some of the symptoms are headaches, febrile periods, characteristic exanthema, positive reaction to Vale-Felix test. Presence of all these symptoms shows the disease to be exanthematous typhus rather than rickettsia.
26137

"Voenno-Meditsinskiy Zhurnal" No 9

PA 26137
"Characteristics of Exanthematous Typhus in the Kwantung Peninsula," Lt Col N. I. Zaitshlyayev, Med Corps, Maj I. F. Priskhod'ko, Med Corps, 3 pp

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Zamyasljaeva, A. M. and Krivic, S. S. (p. 329)

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Carotene and carotene preparations from mountain ash berries: V. A. Shmuk and A. Zamylov. *Proc. Lenin Acad. Agr. Sci. (U.S.S.R.)* 1945, No. 4/5, 7-10 (in Russian).—From the pressed pulp of berries of *Sorbus aucuparia*, treated with a double vol. of boiling water for 45 min. and dried, preps. with 47.8 mg./100 g. carotene were obtained. Treatment of the raw berries with a triple vol. of a 2% Na_2CO_3 soln. at 80° for 45 min. followed by drying gave preps. with 74 mg.-% carotene. Drying temp. should not exceed 60°. From the point of view of color, taste, and losses in storage, treatment with water is preferable to treatment with Na_2CO_3 . The products prepd. include: pressed, dried, and ground pulp with up to 80 mg./100 g. carotene; directly dried and ground berries with up to 30 mg.-% pure carotene, analogous to preps. from carrots; high-percentage oil soln. of carotene. The carotene consists of 85% α , 15% β . In fresh berries, its total content is about 10-12 mg./100 g.; vitamin C about 45-60 mg.-%, more in the pressed juice.

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Proteolysis during the salting of herring. A.D. ZAMYSLOV, and :
SAVOST'YANOV, (BIOCHEMICAL LABORATORY OF THE VETERINARY INST., SARATOV)
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1ST AND 2ND CODES										3RD AND 4TH CODES									
PROCESSING AND PROPERTIES INDEX																			
<p>29</p> <p>Enzyme preparation from <i>Aspergillus oryzae</i> in the leather industry. B. G. Babakina and A. D. Zamyakov. <i>Mikrobiya</i> 4, 216-20(1939).-- Directions are given for the prepn. and use of a potent depilating enzyme from <i>Aspergillus oryzae</i>. H. Priestley</p>																			
<p>Central inst. of Leather Industry</p>																			
<p>ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION</p>																			
FROM DIVISION										FROM SCHOLAR									
SEARCHED MAP ONLY ONE										SERIALIZED ONE ONLY ONE									

1ST AND 2ND GROUPS																										3RD AND 4TH GROUPS																									
COMMON ELEMENTS													COMMON VARIANTS													COMMON ELEMENTS													COMMON VARIANTS												
<p><i>RU</i></p> <p>Alterations of the pectin substances of flax in the course of retting. A. D. Zamyatov. <i>Biokhimiya</i> 5, 170-84(1940).--The pectin III The flax was extd. in 3 fractions: by boiling the flax for 30 min. with distd. H₂O, 1% NH₄ citrate and 1/30 HCl, resp. The sum of the pectin in the 3 fractions of flax before retting ranged from 1.5 to 5.8%, calcd. as Ca pectate. During retting, the Ca pectate content in the aq. ext. relatively increased, and decreased in the other 2 exts. The retting process came to an end when about half of the pectin substances had been decomposed. H. Priestley</p>																																																			
<p><i>INST. of Biochem. of The Academy of Sciences, USSR, Moscow</i></p> <p>ASR-55A METALLURGICAL LITERATURE CLASSIFICATION</p>																																																			

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M. Houch

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